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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,865	07/25/2001	Georges Marcel Victor Thielen	DN2000147	6253

7590 11/13/2003

The Goodyear Tire & Rubber Company
Patent & Trademark Department - D/823
1144 East Market Street
Akron, OH 44316-0001

EXAMINER

FISCHER, JUSTIN R

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 11/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/912,865

Applicant(s)

VICTOR THIELEN, GEORGES
MARCEL

Examiner

Justin R Fischer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☒ Interview Summary (PTO-413) Paper No(s). 8.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

Examiner-Initiated Interview Summary	Application No.	Applicant(s)	
	09/912,865	VICTOR THIELEN, GEORGES MARCEL	
	Examiner	Art Unit	
	Justin R Fischer	1733	

All Participants:
Status of Application: Pending

 (1) Justin R Fischer.

(3) _____.

 (2) John DeLong.

(4) _____.

Date of Interview: 6 November 2003
Time: 12:30
Type of Interview:

- ☒ Telephonic
☐ Video Conference
☐ Personal (Copy given to: ☐ Applicant ☐ Applicant's representative)

 Exhibit Shown or Demonstrated: ☐ Yes ☒ No

If Yes, provide a brief description:

Part I.

Rejection(s) discussed:

NA

Claims discussed:

NA

Prior art documents discussed:

NA

Part II.
SUBSTANCE OF INTERVIEW DESCRIBING THE GENERAL NATURE OF WHAT WAS DISCUSSED:

In light of applicant's after final amendment and declaration, the final rejection set forth in Paper Number 5 was withdrawn and a new grounds of rejection has been set forth in the attached office action.

Part III.

- ☐ It is not necessary for applicant to provide a separate record of the substance of the interview, since the interview directly resulted in the allowance of the application. The examiner will provide a written summary of the substance of the interview in the Notice of Allowability.
☒ It is not necessary for applicant to provide a separate record of the substance of the interview, since the interview did not result in resolution of all issues. A brief summary by the examiner appears in Part II above.

 (Examiner/SPE Signature)

 (Applicant/Applicant's Representative Signature – if appropriate)

DETAILED ACTION

1. In light of applicant's amendment and the declaration submitted on October 20, 2003, the final rejection set forth in Paper Number 5 has been withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oare (US 5,342,900, of record) and further in view of "Vulcuren® Trial Product KA 9188" Brochure (of record) and Freeman (US 5,494,091, newly cited).

As best depicted in Figure 2A, Oare is directed to a runflat tire having at least one sidewall insert radially inward of a carcass ply, wherein said sidewall insert is formed of a diene-based rubber composition. In describing the conventional additives of the insert composition, Oare suggests a vulcanization system having sulfur donating vulcanizing agents, particularly sulfur in an amount between 0.5 and 8 phr (Column 18, Lines 10-20). While Oare fails to suggest a vulcanization system including 1,6-bis (N,N'-dibenzylthiocarbamoyldithio)hexane, this compound is recognized in the rubber industry as being a valuable vulcanizing agent (crosslinking agent) when used with sulfur in the curing of a variety of rubber mixtures, including those formed of natural rubber, isoprene rubber, styrene-butadiene rubber, and butadiene rubber, as shown for

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example by Vulcuren. In particular, Vulcuren suggests that highly reversion-stable vulcanizates are formed by including the claimed additive and further that improved properties, such as modulus, hardness, and heat build up (hysteresis), are realized. These benefits are consistent with those commonly associated with runflat insert compositions. In describing the runflat composition, Oare describes said composition as having high stiffness (modulus/hardness) and low hysteresis (heat build up) (Column 15, Lines 30-32). Freeman has been additionally applied to further evidence the desired benefits of a runflat insert composition, particularly high stiffness (modulus/hardness), low heat build up or hysteresis, and good resistance to heat (high reversion resistance and good ageing) (Column 5, Lines 20-40). It is emphasized that the benefits detailed by Oare and Freeman are consistent with the benefits imparted by the claimed additive and as such, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the claimed additive in the vulcanization system of Oare.

With respect to claims 2, 7, and 15, Vulcuren suggests the use of the claimed additive in an amount between 0.5 and 3.0 phr when used in combination with sulfur.

Regarding claims 3, 9, and 10, Oare describes the use of carbon black in an amount between 30 and 100 phr (Column 17, Lines 37-40).

With respect to claims 4, 8, 11, and 14, Oare describes the use of natural cis 1,4 polyisoprene rubber, isoprene/butadiene rubber, cis 1,4 polybutadiene rubber, and vinyl 1,2 polybutadiene rubbers (Column 16, Lines 26-40). It is noted that one of ordinary skill in the art at the time of the invention would have readily appreciated and expected

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the polybutadiene rubber of Oare to be syndiotactic, as is common in the tire industry.

With specific respect to claim 8, this limitation is only required when a rubber coupled with a group IVa metal is selected. It is noted, though, that such a rubber (coupled with metal) is extensively used in the manufacture of sidewall components and one of ordinary skill in the art at the time of the invention would have found it obvious to form the sidewall insert of Oare from a metal-coupled rubber.

Regarding claim 5, Oare suggests the use of several bifunctional sulfur containing organo silane coupling agents in accordance to the limitations of the claimed invention (Column 17, Lines 55-61).

With respect to claim 6, Oare further suggests the filler component contain silica in addition to carbon black, as is well known in the tire industry (Column 17, Lines 51-55).

Regarding claim 12, Figure 2A of Oare depicts a first crescent-shaped, sidewall insert 42 that is disposed axially inward of a carcass ply 38 and a carcass ply 40.

With respect to claim 13, Oare is directed to the use of different cords in the inner and outer carcass plies, wherein a specific embodiment is described in which the inner carcass is formed of high modulus, steel cords and the outer carcass is formed of lower modulus organic fiber cords (Column 3, Lines 5-15).

4. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oare, Vulcuren, and Freeman, and further in view of Saneto (US 5,342,900, of record). Oare, in view of Vulcuren and Freeman, suggests a runflat insert composition having 1,6-bis(N,N'-dibenzylthiocarbamoyldithio)hexane in an amount between 0.5 and 3.0 phr

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when used in combination with sulfur to define the vulcanization system. In describing the insert composition, Oare describes the general use of a mixture of natural rubber and polybutadiene rubber and further a preferred composition having between 60 and 90 phr of natural rubber and between 10 and 40 phr of a synthetic rubber, such as polybutadiene (1,4 and 1,2 are suggested), wherein the 100% modulus is between 5 and 7 MPa. While these ranges (amount of each rubber) are slightly outside of the claimed ranges, Oare is not restricted to this composition, as evidenced by the language "preferred composition". One of ordinary skill in the art at the time of the invention would have readily appreciated additional rubber compositions for the sidewall insert formed of natural rubber and polybutadiene rubber in accordance to the ranges of the claimed invention, such that said composition provides the necessary properties (e.g. 100% modulus) desired for a runflat sidewall insert. For example, Saneto describes a similar runflat tire construction in which a sidewall insert is positioned inside of an innermost carcass ply, in an analogous manner to the claimed invention, and formed of between 30 and 45 phr of natural rubber and between 55 and 70 phr of polybutadiene rubber (Column 3, Lines 13-55). In this instance, such a rubber composition has a 100% modulus between 5.9 MPa and 9.8 MPa, which encompasses nearly the entire range of values disclosed by Oare. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the sidewall insert with natural rubber and polybutadiene rubber in accordance to the limitations of the claimed invention, as further set forth below.

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Regarding claims 17 and 19, Oare further suggests (in the insert composition) that (i) carbon black is included in an amount between 30 and 100 phr and (ii) sulfur is included in amount between 0.5 and 8.0 phr. It is noted that the inclusion of the claimed additive to the vulcanization system of Oare would slightly reduce the amount of sulfur used.

Lastly, regarding the sidewall insert composition, Saneto illustrates that rubber compositions having natural rubber and polybutadiene rubber within the claimed ranges are recognized as providing suitable properties to impart a desired degree of runflat operation. Though the polybutadiene component is not expressly disclosed as being formed of both 1,2 and 1,4 polybutadiene, Oare suggests the use of each of the polybutadiene rubbers in the runflat sidewall insert (Column 16, Lines 26-40). It is noted that one of ordinary skill in the art at the time of the invention would have recognized the polybutadiene of Oare as being syndiotactic polybutadiene. Thus, one of ordinary skill in the art at the time of the invention would have readily appreciated a polybutadiene component in the runflat insert of Oare between 50 and 80 phr, in view of Saneto, and furthermore, one of ordinary skill in the art would have readily appreciated the inclusion of both 1,2 and 1,4 polybutadiene to form said polybutadiene component in view of the recognition by Oare that each polybutadiene is a commonly used component in sidewall runflat inserts, there being no evidence of any unexpected results to establish a criticality for the claimed runflat rubber composition, regarding the base rubber composition (absent any additives).

Response to Arguments

5. Applicant's arguments, see Paper Numbers 6 and 7, filed October 20, 2003, with respect to the rejection(s) of claim(s) 1-19 under 35 U.S.C §103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of a different interpretation of a previously applied reference (Oare). In particular, the Declaration submitted by applicant suggested that the "dithiocarbamates" described by Oare as a secondary accelerator were in fact metal dithiocarbamates (as is commonly recognized in the tire industry) and thus failed to satisfy the claimed additive (requires hexane, as opposed to metal, to bridge a pair of dithiocarbamate structures). However, newly applied Vulcuren recognizes the use of the claimed additive in combination with sulfur (multi component vulcanization system) to form a highly reversion-stable vulcanizates in a variety of rubber compositions/blends. In particular, the benefits attributed to the claimed additive are consistent with those desired in a runflat insert (those benefits are outlined by Oare and Freeman). As such, it would have been obvious one of ordinary skill in the art at the time of the invention to include the claimed additive in the insert composition of Oare, as detailed in the rejection above. Lastly, the results of Table 1 do not provide a conclusive showing of unexpected results to establish a criticality for the claimed additive in a runflat insert. In particular, the realized benefits (by applicant) of improved aged property retention, higher stiffness, and reduced heat generation are not "unexpected" since Vulcuren recognizes each of these

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benefits when discussing the benefits of adding the claimed additive to a given diene-based rubber composition.

Conclusion

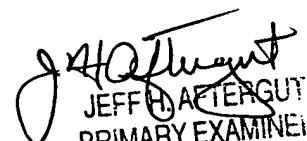
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(703) 605-4397** (if after December 18, 2003, the examiner can be reached at (571) 272-1215). The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


Justin Fischer

November 6, 2003


JEFF H. AFTERGUT
PRIMARY EXAMINER
GROUP 1300